

REMARKS/ARGUMENTS

Claim Amendments

Claims 1 and 3 are amended to respond to claim objections. Claims 1 and 14 are amended to more particularly claim the subject matter of the present invention. No new matter is added.

Claim Rejections Under 35 U.S.C. §102/103

Claims 1, 3-5, and 13-17 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103 as being obvious over U.S. Patent No. 5,464,924 issued to Silvis et al. ("Silvis"). Applicants respectfully submit that the claims, as amended, are now allowable over Silvis.

As recognized by the Examiner, Silvis discloses a Formula II which looks similar to the formula contained in Claim 1 of the present invention. However, Formula II of Silvis encompasses a much larger number of polymers than what is defined by the formula contained in Claim 1. For example, in defining its Formula II, Silvis states that "Z is individually an alkylene, an arylene, a poly(alkylene oxide) or mixtures thereof;" (col. 2, lines 9-11) and "x is from 0 to about 1" (col. 2, line 12). Correspondingly, in the formula of claim 1, "R¹ is an aromatic or substituted aromatic moiety" and "x is greater than 0.8." Therefore, Formula II of Silvis may be characterized as a genus within which the formula contained in Claim 1 of the present invention is a species or a subgenus.

As the Examiner is well aware, M.P.E.P. Sections 2131.02 and 2144.08 provide guidelines on patentability of species claims when prior art teaches genus.

Specifically, a genus covered by a very broad formula will anticipate a claim to a species within the genus when the species is clearly named or when the species can be "at once envisaged" from the formula. Neither conditions are satisfied here. Firstly, the formula in Claim 1 of the present invention is not specifically named in Silvis. Secondly, one of ordinary skill in the art would not "at once envisage" the presently claimed invention when R¹ is narrowly defined as an aromatic or substituted aromatic moiety and x is narrowly defined to be greater than 0.8. Accordingly, it is respectfully submitted that Silvis does not anticipate the present claims and the Examiner is respectfully requested to withdraw the anticipation rejection in the present application.

To establish a *prima facie* case of obviousness in a genus-species chemical composition-situation, as in any other obviousness case, it is essential that some motivation or suggestion be found to make the claimed invention in light of the prior art teachings. In the present case, there is NO motivation or suggestion, explicitly or implicitly, in Silvis to arrive at the presently claimed invention. If anything, Silvis actually teaches away from the presently claimed invention. For example, although the genus formula of Silvis covers a large number of polymers, it specifically teaches those polymers that can be purified and washed by water (col. 6, lines 3-12). In other words, Silvis teaches those polymers that are NOT "water soluble." In contrast, the presently claimed invention is directed to those polymers that are "water soluble." As disclosed in the first paragraph of page 9 of the present specification, the present invention prefers that "the polyalkylene oxide chain be rich in ethylene oxide relative to propylene oxide" and this preferred arrangement will result in high water solubility of the polymers as claimed in amended Claim 1. Specifically, when R¹ has an aromatic structure and x is greater than 0.8, the species of Formula II of Silvis will be rich in ethylene oxide relative to propylene oxide and thus water soluble. Therefore, it is respectfully submitted that a *prima facie* case of obviousness has not been properly established with respect to the amended claims and the rejection should be withdrawn.

Claim Rejection Under Obviousness-Type Double Patenting

Claims 1, and 3-5 are rejected on the ground of nonstatutory obviousness-type double patent as being unpatentable over Claims 1 – 8 of Silvis. This rejection is also respectfully traversed.

Applicants respectfully submit that the presently claimed invention is not obvious over Silvis for the same reasons applied above with regard to the obviousness rejection under 35 U.S.C. §103. Since the reasoning applied above with regard to the obviousness rejection under 35 U.S.C. §103 is fully applicable here, the same is not being repeated for reasons of economy and efficiency.

In view of the discussion above and the amendments to the Claims, it believed that
~~the pending amended claims of the present invention are patentable over the cited art.~~

Reconsideration of the rejection and an early allowance of the claims are respectfully
requested.

Respectfully submitted,



Hong J. Xu
Registration No. 46,425
Phone: 989-638-1424

P. O. Box 1967
Midland, MI 48641-1967

HX/ab